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METHOD AND SYSTEM FOR MANAGING LOCK CONTENTION IN A COMPUTER SYSTEM

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ABSTRACT OF THE DISCLOSURE

A system and method for efficiently managing lock contention for a central processing unit (CPU) of a computer system. The present invention uses both spinning and blocking (or undischarging) to manage threads when they are waiting to acquire a lock. In addition, the present invention intelligently determines when the program thread should spin and when the program thread should become undischarged. If it is determined that the program thread should become undischarged, the present invention provides efficient undischarging of program threads that improves throughput by reducing wait time to acquire the lock. A lock contention management system includes a dispatcher for managing the execution of threads on CPUs as well as threads that are currently ready to run but not executing because they are waiting for an available CPU, a dispatch management module that determines when a program thread should become undischarged to wait on a lock and when the program thread should spin, and low-priority execution module for undischarging the program thread. The present invention also includes a lock contention management method using the above system.